T. EXISTING PERMITS

Buckeye Terminals, LLC holds the permits listed in Table T-1.

Table T-1 Existing EPA Permits for Buckeye Terminals, LLC Woodhaven Terminal

MEDIUM	PERMIT TYPE	PERMIT ID	EXPIRATION DATE
Federal Permits			
Air	Emissions Inventory System (EIS)	EIS #7305611	NA
Waste	RCRA - Notification of Waste Activity Active CESQG	MIR000039974	NA
State Permits			
Air	MDEQ Permit to Install No. 21-14A, Wayne County	State Registration Number B2158	December 7, 2017
Water	Michigan DEQ, EPA Region 5, CWA, National Pollutant Discharge Elimination System (NPDES) Certificate of Coverage under General Permit	MIG670085	April 2018
Water	Stormwater Pollution Prevention Plan (SWPPP)	MIS320020	April 2018

U. DESCRIPTION OF BUSINESS

Buckeye Terminals, LLC is a wholly owned subsidiary of Buckeye Partners, L.P., a publicly traded master limited partnership that owns and operates a diversified network of integrated assets providing midstream logistic solutions, primarily consisting of the transportation, storage, and marketing of liquid petroleum products. Buckeye Partners, L.P. is one of the largest independent liquid petroleum products pipeline operators in the United States in terms of volumes delivered, with approximately 6,000 miles of pipeline. Buckeye Partners, L.P. also uses its expertise to operate and/or maintain third-party pipelines and perform certain engineering and construction services for its customers. Buckeye Terminals, LLC is one of the largest independent terminalling and storage operators in the United States in terms of capacity available for service.

Buckeye Terminals, LLC's terminal network comprises more than 120 liquid petroleum products terminals with aggregate storage capacity of over 115 million barrels across its portfolio of inland terminals and an integrated network of marine terminals located primarily in the East Coast and Gulf Coast regions of the United States and in the Caribbean.

Buckeye Terminals, LLC has 115 active terminals that provide bulk storage and throughput services with respect to liquid petroleum products and renewable fuels, including ethanol, and have an aggregate storage capacity of over 55 million barrels. In addition, three of the terminals provide crude oil services, including train loading/unloading, storage and throughput.

The Woodhaven Terminal located at 20755 West Road, Woodhaven, Michigan, currently uses surface tanks to store gasoline, diesel fuel, and ethanol. Approximately 990,000 bbls of tank storage is present at the Woodhaven Terminal.

Applicable SIC Code: 4226 Special Warehousing and Storage

V. BIBLIOGRAPHY

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APPENDIX

A EPA CHECKLIST

MICHIGAN/INDIANA PERMIT APPLICATION CHECKLIST FOR CLASS I INJECTION WELLS

UIC Permit Application Form Attachment Number	Comment
A. Area of Review	
Minimum of 2 miles for non-hazardous wells.	AoR is 2 miles as discussed in Attachment A and shown in Figures A-1 and A-2.
B. Maps of Wells / Area of Review	
B.1 Each major intake and discharge structures for liquid waste	See Figure B-1.
B.2 Each hazardous waste treatment, storage, or disposal facility	Discussed in Attachment B, Section B.3 and shown in Figure B-1.
B.3 Number, name and location of all producing wells	Discussed in Attachment B, Section B.4.1 and shown in Figure B-2.
B.4 Number, name and location of all injection wells of all classes	Discussed in Attachment B, Section B.4.1 and shown in Figure B-2.
B.5 Number, name and location of all abandoned wells, plugged wells, and dry holes	Discussed in Attachment B, Section B.4.1 and shown in Figure B-2.
B.6 Known or suspected faults	Discussed in Attachment B, Section B.1. There are no known faults.
B.7 Location of all water wells of public record or otherwise known to the applicant, within the AOR or within a quarter mile of the facility property boundary, whichever is greater	Discussed in Attachment B, Section B.4.2 and shown in Figure B-1.
B.8 Bodies of water, springs, surface and subsurface mines and quarries, residences, and roads within the AOR, or within a quarter mile of the facility property boundary, whichever is greater	See Figure B-1.
B.9 List of names and addresses of all owners of record of land within a quarter mile of the facility boundary, unless waived by the Director.	Listed in Table B-1 and shown in Figure B-3.
B.10 A description of the methods used to locate wells in the AOR.	Discussed in Attachment B, Section B.4.
C. Corrective Action Plan and Well Data	
C.1 Corrective action plan for inadequately plugged wells in the AOR which penetrate the top of the confining zone	Discussed in Attachment C.
C.2 Well construction, date of construction and total depth	Summarized in Table C-1 on p. C-1. Available well records in Appendix B.
C.3 Well operator/owner	Summarized in Table C-1 on p. C-1. Available well records in Appendix B.
C.4 Cement records	Unavailable for Wells Listed in Attachment C
C.5 Plugging records	Unavailable for Wells Listed in Attachment C
C.6 Distance from proposed injection well	Listed in Table C-1 on p. C-1.
D. Maps and Cross Sections of USDWs	
D.1 Stratigraphic column of site which indicates all USDWs	See Figure D-1.
D.2 Data substantiating the depth of the lowermost USDW, if available	Disscussed in Attachment D and Figures F-4 and F-5.
F. Maps and Cross Sections of Geologic Structure of Area	
F.1 Cross sections and structure contour maps adequate to describe the regional geology of the area, including especially any faults	See Figures F-1 through F-3; F-6 through F-19
F.2 Cross sections of site-specific geology, including any faulting in the AOR	See Figures F-4 and F-5.
F.3 Geologic description of confining zone (including lateral extent, lithologies, thicknesses, permeabilities, porosities, extent of natural or induced fractures, etc.)	Discussed in Attachment F Sections F.2 and F.3.
F.4 Geologic description of injection zone (including depth, lateral extent, lithology, thickness, permeability, porosity, presence of natural or induced fractures, etc.)	Discussed in Attachment F Sections F.2 and F.4.
F.5 Page-sized (8 1/2" x 11") diagram showing well construction and corresponding site stratigraphy.	See Figures M-1, M-2, M-3, M-4, and M-5.
G. Does not apply to Class 1 Wells	
H. Operating Data	
H.1 Estimated average and maximum injection rate and volume	Discussed in Attachment H, Section H.1.
H.2 Estimated average and maximum injection pressures	Discussed in Attachment H, Section H.2, and tabulated in Table H-1.
H.3 Source(s) of waste (brief description of industrial process(es) which produce the waste)	Discussed in Attachment H, Section H.3.1.
H.4 A representative waste analysis (including all major constituents and, for hazardous wastes, all hazardous constituents and characteristics)	Shown in Attachment H, Table H-2.
H.5 Plans for corrosion monitoring, if the waste is corrosive	Discussed in Attachment H, Section H.3.3.
I. Formation Testing Program	
I.1 Procedures to verify depth of lowermost USDW, if needed	Discussed in Attachment I Section I.1, Attachment L, Section L.1.1 Step 5, Section L.1.2 Step 5, and Table L-2.
I.2 Procedures to obtain extrapolated formation pressure in porous and permeable zones within approximately 500 feet of the top of the injection zone (non-hazardous wells) or injection interval (hazardous wells)	Discussed in Attachment I, Section I.2 and Attachment L, Section L.2 Steps 10 through 12.
I.3 Sampling and analysis procedures for formation fluid of 1. the first aquifer overlying confining zone (hazardous and non-hazardous waste wells), 2. the injection zone (non-hazardous waste wells) or injection interval (hazardous waste wells), and 3. the containment interval (hazardous waste wells only)	1. Attachment I, Section I.3. 2. Attachment I, Section I.3 and Attachment L, Section L.2 Step 4. 3. Does not apply.

MICHIGAN/INDIANA PERMIT APPLICATION CHECKLIST FOR CLASS I INJECTION WELLS

UIC Permit Application Form Attachment Number	Comment
I.4 Cores and laboratory core testing for confining and injection zones (For non-hazardous waste wells, a minimum of one 30-foot core of the confining zone and one 30-foot core of the injection zone are required. For hazardous waste wells where injection of restricted wastes is proposed, one or more cores of the containment interval will also be necessary)	Discussed in Attachment I, Section I.4.
I.5 Determination of fracture closure pressure of injection zone (nonhazardous wells) or injection interval (hazardous wells)	Discussed in Attachment I Section I.5 and Attachment L Section L.2 Step 9.
I.6 Injectivity/fall-off testing of injection zone/interval, including interference testing if multiple wells are proposed	Discussed in Attachment I Section I.6 and Attachment L Section L.2 Steps 9 and 10.
J. Stimulation Program	
Class I wells are not recommended in areas where fracture stimulation will be necessary. If it is proposed, procedures should be included in the permit application which show how the operator proposes to confine fractures to the injection formation. If acid or other type of stimulation is proposed, procedures should also be included in the permit application under this section.	Discussed in Attachment J. Fracture stimulation is not proposed. An "acid wash" will be performed as necessary.
K. Injection Procedures	
K.1 Plant plan showing flow line of waste stream(s) to be injected	Provided in Figure K-2.
K.2 Description of filters, storage tanks (including capacity), and any teatment processes and facilities, including location on plant plan	Discussed in Attachment K Section K.2 and shown in in Figure K-2.
K.3 Description of injection pumps, including rate capacity	Discussed in Attachment K Section K.3 and shown in Figure K-2.
K.4 Description of annulus pressure maintenance system	Discussed in Attachment K Section K.4 and shown in Figure F-3.
K.5 Description of alarm and shut-off system	Discussed in Attachment K Section K.5.
L. Construction Procedures	
L.1 Detailed well construction procedures	Provided in Attachment L Sections L.1 and L.2.
L.2 Estimated time table for drilling, logging and formation testing	Provided in Table L-1.
L.3 Proposed open-hole and cased hole logs	Provided in Table L-2.
L.4 Proposed mechanical integrity testing (cement bond logs, radioactive tracer log, and temperature, noise or oxygen activation log are required prior to injection of waste)	Discussed in Attachment L Section L.2, Steps 9 through 11.
L.5 Proposed buffer fluid and volume, if any	Discussed in Attachment L Section L.4.
M. Construction Details	
M.1 Proposed construction of well, including total depth, completion type, casing sizes, types, weights, and setting depths	Discussed in Attachment M Section M.1 and shown in Figures M-1 through M-5.
M.2 Proposed cement type and amount for all casing (All casings should be cemented to surface.)	Discussed in Attachment M Section M.2 and provided in Table M-1.
M.3 Tubing and packer specifications, including size, type, and setting depths	Discussed in Attachment M Section M.3 and provided in Table M-2.
M.4 Well head construction details	Provided in Figure M-6.
M.5 Location of sample tap and female coupling for independent determination of annulus pressure	Discussed in Attachment M Section M.5.
N. Does not apply to Class 1 Wells	
O. Plans for Well Failures	
O.1 Actions that will be taken if mechanical integrity of well is lost	Discussed in Attachment O.
O.2 Storage or alternate treatment or disposal of waste in the case of emergency shut-in.	Discussed in Attachment O. Injectate will be routed to other wells.
P. Monitoring Program	
P.1 Waste Analysis Plan (see guidelines)	Provided in Appendix D.
P.2 Description of monitoring and recording system for injection pressure, rate, and volume, and for annulus pressure	Discussed in Attachment P Section P.2.
P.3 Description of sight glass level monitoring and recording, if a seal pot system of annulus pressure maintenance is proposed	Discussed in Attachment P Section P.3.
P.4 Groundwater monitoring plan and Quality Assurance Project Plan (In most cases, this will be necessary for new wells injecting restricted hazardous wastes. Region 5's two guidances on groundwater monitoring should be followed.)	Discussed in Attachment P Section P.4. Neither a Groundwater Monitoring Plan nor a Quality Assurance Project Plan is required.
Q. Plugging and Abandonment Plan	
Q.1 Signed plugging and abandonment form, showing amount and type of cement, placement method, and estimated cost. (Region 5 requires a cement plug to extend from the base of the lowermost casing to the surface.)	Provided in Attachment Q and Appendix E.
Q.2 Signed estimate of plugging and abandonment costs (and post-closure costs, if applicable) by an independent firm	Provided in Appendix E.

MICHIGAN/INDIANA PERMIT APPLICATION CHECKLIST FOR CLASS I INJECTION WELLS	
UIC Permit Application Form Attachment Number	**Comment**
Q.3 Closure plan, including plans to acquire a representative fluid sample from the first aquifer overlying the injection zone (Only necessary for wells which inject restricted hazardous wastes)	Not Applicable.
Q.4 Post-closure plan, which covers the requirements of 40 CFR 146.72 (Only necessary for hazardous waste wells)	Not Applicable.
R. **Necessary Resources**	
Signed mechanism of financial assurance sufficient to cover closure (and post-closure, if applicable) of well. (Applicants for both hazardous and non-hazardous waste wells should use 40 CFR 144, Subpart F as a guideline)	To be provided in a separate submission.
S. **Aquifer Exemptions**	
Region 5 does not encourage applications for aquifer exemptions for Class I wells. If application is made, 40 CFR 146.4 may be used as a guideline.	This application does not request an aquifer exemption.
T. **Existing Permits**	
Briefly describe activities which require the applicant to obtain permits under the RCRA, UIC, NPDES, or PSD programs. List all permits or construction approvals received or applied for at the facility where the well will be located, under any of the following programs:	
T.1 Hazardous Waste Management under RCRA	Provided in Table T-1.
T.2 UIC program under SDWA	Not Applicable.
T.3 NPDES program under CWA	Not Applicable.
T.4 Prevention of Significant Deterioration (PSD) program under the Clear Air Act	Provided in Table T-1.
T.5 Nonattainment program under the Clean Air Act	Provided in Table T-1.
T.6 Dredge and fill permits under section 404 of CWA	Not Applicable.
T.7 Other relevant environmental permits, including State permits.	Provided in Table T-1.
U. **Description of Business**	
U.1 Briefly describe the nature of the business and list up to four SIC codes which best reflect the principal products or services provided by the facility.	Discussed in Attachment U.
Prior Releases	
For existing wells, list the highest injection pressure in use in this well since construction and the approximate dates of injection near that pressure	Not Applicable.
List of prior releases of waste through injection wells at this facility to intervals other than that proposed in this permit application	Not Applicable.
IF THE PERMIT APPLICATION IS FOR HAZARDOUS WASTE INJECTION, THE APPLICANT MUST ALSO INCLUDE THE FOLLOWING:	Not Applicable.

MICHIGAN/INDIANA
PERMIT APPLICATION CHECKLIST FOR CLASS I INJECTION WELLS

(Keyed to subsections of the Underground Injection Control permit application form)

A. AREA OF REVIEW

In Region 5, the Area of Review (AOR) is a set at a minimum fixed radius of 2 miles for non-hazardous wells; or the larger of the calculated Cone of Influence or a 2 mile radius, for hazardous wells.

For hazardous waste wells, the following information is needed to calculate the Cone of Influence:

__ Depth of top of proposed injection interval

__ Known or estimated pre-injection pressure at top of injection interval

__ Known or estimated specific gravity of formation fluid at top of injection interval

__ Depth of bottom of lowermost aquifer which qualifies as an Underground Source of Drinking Water (USDW)

__ Hydrostatic head (or static water level) of lowermost USDW

__ Expected or modeled maximum pressure buildup in the injection interval

B. MAPS OF WELLS/AREA OF REVIEW

Topographic map of AOR or area extending at least 1 mile beyond property boundaries, whichever is greater, showing the following: (Only items of public record are required.)

__ Each major intake and discharge structures for liquid waste

__ Each hazardous waste treatment, storage, or disposal facility

__ Number, name and location of all producing wells

__ Number, name and location of all injection wells of all classes

__ Number, name and location of all abandoned wells, plugged wells, and dry holes

__ Known or suspected faults

__ Location of all water wells of public record or otherwise known to the applicant, within the AOR or within a quarter mile of the facility property boundary, whichever is greater

__ Bodies of water, springs, surface and subsurface mines and quarries, residences, and roads within the AOR, or within a quarter mile of the facility property boundary, whichever is greater

The following information is also required:

__ List of names and addresses of all owners of record of land within a quarter mile of the facility boundary, unless waived by the Director.

__ A description of the methods used to locate wells in the AOR.

C. CORRECTIVE ACTION PLAN AND WELL DATA

__ Corrective action plan for inadequately plugged wells in the AOR which penetrate the top of the confining zone

The following information should be submitted for all wells in the AOR which penetrate the top of the confining zone:

__ Well construction, date of construction and total depth

__ Well operator/owner

__ Cement records

__ Plugging records

__ Distance from proposed injection well

D. MAPS AND CROSS SECTIONS OF USDWs

__ Stratigraphic column of site which indicates all USDWs

__ Data substantiating the depth of the lowermost USDW, if available

E. DOES NOT APPLY TO CLASS I WELLS

F. MAPS AND CROSS SECTIONS OF GEOLOGIC STRUCTURE OF AREA

__ Cross sections and structure contour maps adequate to describe the regional geology of the area, including especially any faults

__ Cross sections of site-specific geology, including any faulting in the AOR

__ Geologic description of confining zone (including lateral extent, lithologies, thicknesses, permeabilities, porosities, extent of natural or induced fractures, etc.)

__ Geologic description of injection zone (including depth, lateral extent, lithology, thickness, permeability, porosity, presence of natural or induced fractures, etc.)

__ Page-sized (8 1/2" x 11") diagram showing well construction and corresponding site stratigraphy

G. DOES NOT APPLY TO CLASS I WELLS

H. OPERATING DATA

__ Estimated average and maximum injection rate and volume

__ Estimated average and maximum injection pressures

__ Source(s) of waste (brief description of industrial process(es) which produce the waste)

__ A representative waste analysis (including all major constituents and, for hazardous wastes, all hazardous constituents and characteristics)

__ Plans for corrosion monitoring, if the waste is corrosive

I. FORMATION TESTING PROGRAM

__ Procedures to verify depth of lowermost USDW, if needed

__ Procedures to obtain extrapolated formation pressure in porous and permeable zones within approximately 500 feet of the top of the injection zone (non-hazardous wells) or injection interval (hazardous wells)

__ Sampling and analysis procedures for formation fluid of 1. the first aquifer overlying confining zone (hazardous and non-hazardous waste wells), 2. the injection zone (non-hazardous waste wells) or injection interval (hazardous waste wells), and 3. the containment interval (hazardous waste wells only)

__ Cores and laboratory core testing for confining and injection zones (For non-hazardous waste wells, a minimum of one 30-foot core of the confining zone and one 30-foot core of the injection zone are required. For hazardous waste wells where injection of restricted wastes is proposed, one or more cores of the containment interval will also be necessary)

__ Determination of fracture closure pressure of injection zone (nonhazardous wells) or injection interval (hazardous wells)

__ Injectivity/fall-off testing of injection zone/interval, including interference testing if multiple wells are proposed

J. STIMULATION PROGRAM

Class I wells are not recommended in areas where fracture stimulation will be necessary. If it is proposed, procedures should be included in the permit application which show how the operator proposes to confine fractures to the injection formation. If acid or other type of stimulation is proposed, procedures should also be included in the permit application under this section.

K. INJECTION PROCEDURES

__ Plant plan showing flow line of waste stream(s) to be injected

__ Description of filters, storage tanks (including capacity), and any pretreatment processes and facilities, including location on plant plan

__ Description of injection pumps, including rate capacity

__ Description of annulus pressure maintenance system

__ Description of alarm and shut-off system

L. CONSTRUCTION PROCEDURES

__ Detailed well construction procedures

__ Estimated time table for drilling, logging and formation testing

__ Proposed open-hole and cased hole logs

__ Proposed mechanical integrity testing (cement bond logs, radioactive tracer log, and temperature, noise or oxygen activation log are required prior to injection of waste)

__ Proposed buffer fluid and volume, if any

M. CONSTRUCTION DETAILS

The following information should be included in well schematics and/or tables:

__ Proposed construction of well, including total depth, completion type, casing sizes, types, weights, and setting depths

__ Proposed cement type and amount for all casing (All casings should be cemented to surface.)

__ Tubing and packer specifications, including size, type, and setting depths

__ Well head construction details

__ Location of sample tap and female coupling for independent determination of annulus pressure

N. DOES NOT APPLY TO CLASS I WELLS

O. PLANS FOR WELL FAILURES

The applicant should submit contingency plans for 1. actions that will be taken if mechanical integrity of well is lost and 2. storage or alternate treatment or disposal of waste in the case of emergency shut-in.

P. MONITORING PROGRAM

__ Waste Analysis Plan (see guidelines)

__ Description of monitoring and recording system for injection pressure, rate, and volume, and for annulus pressure

__ Description of sight glass level monitoring and recording, if a seal pot system of annulus pressure maintenance is proposed

__ Groundwater monitoring plan and Quality Assurance Project Plan (In most cases, this will be necessary for new wells injecting restricted hazardous wastes. Region 5's two guidances on groundwater monitoring should be followed.)

Q. PLUGGING AND ABANDONMENT PLAN

__ Signed plugging and abandonment form, showing amount and type of cement, placement method, and estimated cost. (Region 5 requires a cement plug to extend from the base of the lowermost casing to the surface.)

__ Signed estimate of plugging and abandonment costs (and post-closure costs, if applicable) by an independent firm

__ Closure plan, including plans to acquire a representative fluid sample from the first aquifer overlying the injection zone (Only necessary for wells which inject restricted hazardous wastes)

__ Post-closure plan, which covers the requirements of 40 CFR 146.72 (Only necessary for hazardous waste wells)

R. NECESSARY RESOURCES

__ Signed mechanism of financial assurance sufficient to cover closure (and post-closure, if applicable) of well. (Applicants for both hazardous and non-hazardous waste wells should use 40 CFR 144, Subpart F as a guideline)

S. AQUIFER EXEMPTIONS

Region 5 does not encourage applications for aquifer exemptions for Class I wells. If application

is made, 40 CFR 146.4 may be used as a guideline.

T. EXISTING EPA PERMITS

Briefly describe activities which require the applicant to obtain permits under the RCRA, UIC, NPDES, or PSD programs. List all permits or construction approvals received or applied for at the facility where the well will be located, under any of the following programs:

1. Hazardous Waste Management under RCRA
2. UIC program under SDWA
3. NPDES program under CWA
4. Prevention of Significant Deterioration (PSD) perogram under the Clear Air Act
5. Nonattainment program under the Clean Air Act
6. Dredge and fill permits under section 404 of CWA
7. Other relevant environmental permits, including State permits.

U. DESCRIPTION OF BUSINESS

Briefly describe the nature of the business and list up to four SIC codes which best reflect the principal products or services provided by the facility.

PRIOR RELEASES

__ For existing wells, list the highest injection pressure in use in this well since construction and the approximate dates of injection near that pressure

__ List of prior releases of waste through injection wells at this facility to intervals other than that proposed in this permit application

IF THE PERMIT APPLICATION IS FOR HAZARDOUS WASTE INJECTION, THE APPLICANT MUST ALSO INCLUDE THE FOLLOWING:

__ All applicable RCRA waste codes for listed and characteristic wastes proposed for injection in this well

__ All applicable Land Disposal Restriction deadlines or "ban dates"

__ Proposed schedule for submittal of exemption petition, if waste is restricted from land disposal

__ Additional testing proposed to support the exemption petition

__ Future plans for waste minimization and a certified statement which meets the requirements of 40 CFR 146.70(d)

APPENDIX

B WELL RECORDS

(SEE ATTACHMENT C)

APT # 21163100419 PERMIT # 00419

(6)

35-4S-10E
Brownstown Twp., (Wayne Co.)

TD 2820 in Black River Dry

W. E. Ellis

Location: NE¼ NE¼ section 35, T 4S, R 10E
Brownstown Twp., on the Miller Road, 2 miles southwest of Trenton, about 700' south of road.

Elevation: About 585 feet above sea level

Record by: W. Osgood & R. B. Newcombe from samples furnished by J. F. Miller, & Driller's log. Spudded in April 11, 1927.
Driller: Frank C. Cheers

	Thickness (Feet)	Depth (Feet)
PLEISTOCENE:		
Drift:		
Surface deposits	20	20
DEVONIAN:		
Detroit River:		
Dolomite, light buff	70	90
" , gray	15	105
" , light buff	11	116
" , dark brown, bituminous	20	136
" , buff, light	44	180
Sylvania:	(160)	
Sandstone, gray, cemented by dolomite	10	190
" , white (hole full water 215)	70	260
" , gray (dolomite cem.)	20	280
Sandstone	10	290
SILURIAN:	(110)	
Bass Island-Salina:		
Dolomite, gray, cherty	10	300
" , sandy	10	310
" , gray to buff, cherty (much chert 310-60)	140	450
" " " "	90	540
Dolomite, gray	10	550
" , buff	10	560
" , gray with some gypsum	20	580
" , light buff	25	605
" , gray	15	620
" , dark gray to black with some anhydrite	110	730
" , brown	20	750
" , dark gray with anhydrite	30	780
" , buff	10	790
" , gray	30	820
" , buff	10	840
" , gray & brown	30	870
" "	130	1000
" , brown & anhydrite	80	1080
" , gray	30	1110
" , light gray & anhydrite	30	1140
" , light buff (water enough to drill with at 1195, more 1280)	110	1250
Dolomite, brown	30	[illegible]
" , gray & brown	90	1370
" , gray (6 bailers of water)	20	1390
	(1300)	

	Thickness (Feet)	Depth (Feet)
Guelph:		
Dolomite, white or bluish white	10	1400
Dolomite, milky white, crystalline	10	1410
Dolomite, light brown, iron stained	20	1430
Dolomite, iron stained	30	1460
Dolomite, light blue	30	1490
Dolomite, blue to gray	10	1500
	(110)	
Lockport:		
Dolomite, light buff (Lithographic)	10	1510
Dolomite, gray and greenish gray shale	10	1520
	(20)	
Cataract:		
Cabot Head:		
Shale, purple and green and dolomite	20	1540
Shale, soft greenish gray	40	1580
Dolomite, gray and purple shales (iron stained)	10	1590
	(70)	
Manitoulin:		
Dolomite, gray to buff (Iron stained)	10	1600
Dolomite, gray to greenish gray, shaly	10	1610
Dolomite, light gray to buff, hard crystalline	20	1630
	(40)	
ORDOVICIAN:		
Cincinnatian:		
Shale, greenish gray to purple	10	1640
Shale, greenish gray	10	1650
Shale, light red	10	1660
Shale, greenish gray to purple	30	1690
Shale, soft red	70	1760
Shale, light red	10	1770
Shale, purple and green (purple predominating)	10	1780
Shale, purple and green (green predominating)	10	1790
Shale, soft light gray	10	1800
Dolomite, gray, shaly	10	1810
Shale, light to dark gray and shaly dolomite	30	1840
Shale, purple with some green	20	1860
Shale, greenish gray with some purple	20	1880
Shale, light greenish gray	10	1890
Shale, hard gray	250	2140
Shale, gray, hard	60	2200
Shale, brownish, gray (Utica?)	40	2240
Gray, brownish, shale & dolomite (some Pyrite)	10	2250
	(620)	
Trenton-Black River:		
Limestone, buff dolomitic and blue-gray shale (Steel line measurement shows top of Trenton - 2660')	30	2280
Limestone, brown (some blue shale)	20	2300
Limestone, light gray	10	2310
Limestone, buff & light gray with some blue shale (fossils)	36	2346
(show of oil and gas at 2344, oil at 2342-2352. After standing overnight made about 2 quarts of oil.)		
Dolomite, buff	8	2354
Limestone, wh[illegible]f. charty	16	2370

	Thickness (Feet)	Depth (Feet)
Trenton-Black River: (Contd.):		
Limestone, light gray	20	2390
Limestone, dark gray to buff	30	2420
Limestone, light gray	10	2430
Limestone, buff to dark gray (fossils)	20	2450
Limestone, buff, fossiliferous and dark blue gray shale	20	2470
Limestone, buff	50	2520
Shale, dark gray (some buff limestone)	20	2540
Limestone, buff (fossils)	40	2580
Limestone, dark gray (some shale)	60	2640
Limestone, light buff, fine grained, nearly lithographic limestone	180 (570+)	2820
TOTAL DEPTH		2820

Casing record:
10" 147'
8 1/4" 610'
6 5/8" (2) 1798'

7-13-56-C

Muskegon Twp. (Muskegon County)

Reed Oil Company

Heinz #6 Permit #419

Drilling Contractor: J. B. Reed

Location: NW¼ of SE¼ of section 8, T.10N.,R.16W.
1795 feet from south and 2100 feet from east line of quarter section.

Elevation: 587 feet above sea level.

Record by: O. F. Poindexter from driller's log.

	Thickness (Feet)	Depth (Feet)
PLEISTOCENE:		
Drift:		
Drift	199	199
MISSISSIPPIAN:		
Lower Marshall:		
Lime (sandstone and shale ?)	71	270
Coldwater:		
Shale	239	509
Limestone	49	558
Blue shale	230	788
Red limestone	22	810
Bedford:		
Green shale	522	1332
MISSISSIPPIAN-DEVONIAN:		
Antrim:		
Brown shale	165	1497
DEVONIAN:		
Traverse:		
Gray limestone	99	1596
No record (gas 1596-1606; oil 1606-1610)	14	1610
Limestone	250	1860
Shale and limestone	120	1980
Dundee:		
Limestone (oil and gas)	10	1990

587
199
388

Casing record:
10" 202'
8¼" 290'
6-5/8" 1980'

Commenced: 10-10-29
Completed: 11-4-29
Initial Production: 100 bbls. oil

Permit No 146 Source: Geowebface DEQ

- API Number:21163001468000
- Permit Number:146
- Lease Name:MARATHON OIL CO. (WOODHAVEN)
- Well #:BD1
- Status:Active
- Total Depth:3752
- Producing Formation:Null
- Latitude:42.131838
- Longitude:-83.227123
- Place:Woodhaven
- County:Wayne
- TRS:04S10E22
- Map-click Lat:42.13187
- Map-click Lon:-83.22718

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA)
UNDERGROUND INJECTION CONTROL MINOR PERMIT MODIFICATION: CLASS II

Permit Number: MI-163-2D-0001 — CLASS 2 WELL

Facility Name: Brine Disposal Well #1 (BD146)

Pursuant to the provisions of the Safe Drinking Water Act, as amended (42 U.S.C. 300f et seg., commonly known as the SDWA) and implementing regulations promulgated by the USEPA at Parts 124, 144, 146 and 147 of Title 40 of the Code of Federal Regulations (CFR),

Marathon Pipe Line LLC., of Findlay, Ohio

is hereby authorized to operate an injection well located in Michigan, Wayne County, T4S, R10E, Section 22, SE 1/4 Section, for injection into the Eau Claire and Mt. Simon Formations at depths between 3252 feet and 3704 feet, upon the express condition that the permittee meet the restrictions set forth herein.

The purpose of the injection is for the disposal of salt water from gas storage operations owned or operated by Marathon Pipe Line LLC in the immediate area.

All references to Title 40 of the Code of Federal Regulations are to all regulations that are in effect on the date that this permit is effective.

This permit is a minor modification of an existing permit which was signed on December 8, 1988. This permit shall become effective on NOV 4 2005 and shall remain in full force and effect during the operating life of the well, unless this permit is otherwise revoked, terminated, modified or reissued pursuant to 40 CFR 144.39, 144.40 or 144.41. This permit shall also remain in effect upon delegation of primary enforcement responsibility to the State of Michigan, unless that State chooses to adopt this permit as a State permit. This permit will be reviewed at least every five (5) years from the effective date specified above.

Signed and dated: November 4, 2005

for Charles J. Elly

Jo Lynn Traub
Director, Water Division

This permit contains 13 pages and attachments A through C.

PART I

GENERAL PERMIT COMPLIANCE

A. EFFECT OF PERMIT

The permittee is allowed to engage in underground injection in accordance with the conditions of this permit. The underground injection activity, otherwise authorized by this permit or rule, shall not allow the movement of fluid containing any contaminant into Underground Sources of Drinking Water (USDW), if the presence of that contaminant may cause a violation of any Primary Drinking Water Regulation pursuant to Title 40 CFR Part 142 or may otherwise adversely affect the health of persons. Any underground injection activity not specifically authorized in this permit or otherwise authorized by permit or rule is prohibited. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any action brought under Section 1431 of the Safe Drinking Water Act (SDWA), or any other law governing protection of public health or the environment, for any imminent and substantial endangerment to human health or the environment.

B. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause as specified in Title 40 CFR §144.39, §144.40, and §144.41. The filing of a request for a permit modification, revocation and reissuance, termination, or the notification of planned changes or anticipated noncompliance on the part of the permittee does not stay the applicability or enforceability of any permit condition.

C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and to the remainder of this permit shall not be affected thereby.

D. CONFIDENTIALITY

In accordance with Title 40 CFR Part 2 and §144.5, any information submitted to USEPA pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, USEPA may make the information available to the public without further notice.

If a claim is asserted, the validity of the claim will be assessed in accordance with the procedures in Title 40 CFR Part 2 (Public Information). Claims of confidentiality for the following information will be denied:

1) The name and address of the permittee; and,

2) Information which deals with the existence, absence or level of contaminants in drinking water.

E. DUTIES AND REQUIREMENTS

1. Duty to Comply - The permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance constitutes a violation of the SDWA and is grounds for enforcement action, permit termination, revocation and reissuance or modification.

2. Penalties for Violations of Permit Conditions - Any person who operates this well in violation of permit conditions is subject to civil penalties, fines, and other enforcement action under the SDWA and may be subject to such actions under the Resource Conservation and Recovery Act. Any person who willfully violates a permit condition may be subject to criminal prosecution.

3. Need to Halt or Reduce Activity not a Defense - It shall not be a defense for a permittee in an enforcement action to state that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. Duty to Mitigate - The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

5. Proper Operation and Maintenance - The permittee shall at all times properly operate and maintain all facilities. Proper operation and maintenance includes effective performance and adequate funding, including appropriate quality assurance procedures.

6. Duty to Provide Information - The permittee shall furnish to the Director, within thirty (30) days, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required by this permit to be retained.

7. Inspection and Entry - The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

   (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this permit;

   (b) Have access to and copy, at reasonable times, any records that must be retained under the conditions of this permit;

   (c) Inspect, at reasonable times, any facilities, equipment (including monitoring equipment), practices, or operations, regulated or required under this permit; and,

   (d) Sample or monitor the injected fluids, at reasonable times, for the purposes of assuring permit compliance, or as otherwise authorized by the SDWA, at any location.

8. Records

   (a) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and copies of all reports required by this permit, for a period of at least three (3) years from the date of the sample, measurement or report. The permittee shall also maintain records of all data required to complete this permit application and any supplemental information submitted under Title 40 CFR §144.27, §144.28 and §144.31. These periods may be extended by the Director at any time by written notice to the permittee.

   (b) The permittee shall retain records concerning the nature and composition of all injected fluids until three (3) years after the completion of plugging and abandonment in accordance with the plugging and abandonment plan, contained in Part III(B) of this permit. At the conclusion of the retention period, if the Director so requests, the permittee shall deliver the records to the Director.

   (c) Records of monitoring information shall include:

      (i) The date, exact place, and the time of sampling or measurements;

      (ii) The individual(s) who performed the sampling or measurements;

      (iii) A precise description of both sampling methodology and the handling of samples;

      (iv) The date(s) analyses were performed;

      (v) The individual(s) who performed the analyses;

(vi) The analytical techniques or methods used; and,

(vii) The results of such analyses.

9. Notification Requirements

(a) Planned Changes - The permittee shall notify the Director at least thirty (30) days prior to any planned physical alterations or additions to the permitted facility, or changes in the injection fluids. An analysis of new injection fluids shall be submitted to the Director in accordance with Parts II(B)(2) and II(B)(3) of this permit.

(b) Anticipated Noncompliance - The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) Transfer of Permits - This permit is not transferrable to any person except after notice is sent to the Director and the requirements of Title 40 CFR §144.38 have been met. The Director may require modification or revocation of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the SDWA.

(d) Compliance Schedules - Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than thirty (30) days following each schedule date.

(e) Twenty-Four (24) Hour Reporting

(i) The permittee shall report to the Director any noncompliance which may endanger health or the environment. This information shall be provided orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances, and shall include the following information:

(a) Any monitoring or other information which indicates that any contaminant may cause an endangerment to an underground source of drinking water; or,

(b) Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

(ii) A written submission shall also be provided as soon as possible but no later than five (5) days from the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

(f) Other Noncompliance - The permittee shall report all other instances of noncompliance. The reports shall contain the information listed in Part I(E)(9)(e)(ii) of this permit.

(g) Other Information - If or when the permittee becomes aware that he/she failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit such facts or corrected information.

(h) Report on Permit Review - Within thirty (30) days of receipt, the permittee shall report to the Director that he/she has read and is personally familiar with all terms and conditions of this permit.

10. Commencing Injection - The permittee shall not recommence injection until any remedial procedures described in Parts I(E)(16) and III(C) of this permit are complete, and;

(a) The permittee has submitted a report on the remedial work to the Director; and,

(b) The Director has inspected or otherwise reviewed the remedial work and notified the permittee in writing that he/she is in compliance with the conditions of this permit; or,

(c) The permittee has not received, with thirteen (13) days of the date of the Director's receipt of the report required above, notice from the Director of his/her intent to inspect or otherwise review the new injection well, in which case prior inspection or review is waived and the permittee may commence injection.

11. Signatory Requirements - All reports or other information requested by the Director shall be signed and certified according to Title 40 CFR §144.32.

12. Notice of Plugging and Abandonment - The permittee shall notify the Director at least forty-five (45) days before conversion or abandonment of the well.

13. Plugging and Abandonment - The permittee shall plug and abandon the well as provided in the plugging and abandonment plan contained in Part III(B) of this permit. After a cessation of operation of two (2) years, the owner or operator shall plug and abandon the well in accordance with the plan provided in Part III(B) of this permit unless the operator fulfills the other requirements under Title 40 CFR §144.52(a)(6). The permittee shall notify the Director of plugging and abandonment in accordance with the reporting procedures in Part II(B)(3)(d) of this permit.

14. Financial Responsibility - The permittee shall maintain financial responsibility and resources to plug and abandon the underground injection well in accordance with Title 40 CFR §144.52(a)(7) as provided in Attachment R of the administrative record corresponding to this permit action which is hereby incorporated by reference as if it appeared fully set forth herein. The permittee shall not substitute an alternative demonstration of financial responsibility from that which the Director has approved, unless the permittee has previously submitted evidence of that alternative demonstration to the Director and the Director has notified the permittee in writing that the alternative demonstration of financial responsibility is acceptable. The financial responsibility mechanism shall be updated periodically, upon request of the Director.

15. Insolvency

    (a) In the event of the bankruptcy of the trustee or issuing institution of the financial mechanism, or a suspension or revocation of the authority of the trustee institution to act as trustee or the institution issuing the financial mechanism to issue such an instrument, the permittee must submit an alternative demonstration of financial responsibility acceptable to the Director within sixty (60) days after such event.

    (b) An owner or operator must also notify the Director by certified mail of the commencement of voluntary or involuntary proceedings under Title 11 (Bankruptcy), U. S. Code, naming the owner or operator as debtor, within ten (10) business days after the commencement of the proceeding. A guarantor of a corporate guarantee

must make such a notification if the permittee is named as debtor, as required under the terms of the guarantee.

16. Remedial Action

(a) The permittee shall shut in the injection well whenever he/she or USEPA determines that operation thereof may be causing upward fluid migration through the wellbore of any improperly plugged or unplugged well in the area of review and shall take such steps as he/she can to properly plug the offending well(s). Any operation of the well which may cause upward fluid migration from an improperly plugged or unplugged well will be considered a violation of this permit. If the permittee or USEPA determines that the casing of the permitted well is leaking, the permittee will immediately shut in the well until such time as appropriate repairs can be effected and a mechanical integrity demonstration provided to the Director.

(b) The permittee shall not recommence injection until any and all remedial action has been taken in accordance with the plan contained in Part III(C) of this permit and the requirements in Part I(E)(10) of this permit have been met.

17. Mechanical Integrity

(a) The permittee must establish and shall maintain mechanical integrity of this well, in accordance with Title 40 CFR §146.8.

(b) A demonstration of mechanical integrity, in accordance with Title 40 CFR §146.8, shall be performed at least every five (5) years from the date of the last approved demonstration. The permittee shall notify the Director of his/her intent to demonstrate mechanical integrity at least thirty (30) days prior to such demonstration.

(c) The permittee shall demonstrate the mechanical integrity of the well by pressure testing whenever: (i) the tubing is removed from the well or replaced; (ii) the packer is reset; or, (iii) a loss of mechanical integrity occurs during operation.

(d) The Director may, by written notice, require the permittee to demonstrate mechanical integrity at any time.

(e) The permittee shall cause all gauges used in mechanical integrity demonstrations to be calibrated prior to the demonstration. For continuous annulus monitoring, gauges shall be calibrated on an annual basis.

(f) The permittee shall cease injection if a loss of mechanical integrity during a test, or a loss of mechanical integrity, as defined by Title 40 CFR §146.8, becomes evident during operation. Operations shall not be resumed until the Director gives approval to recommence injection.

(g) The permittee shall notify the Director of the loss of mechanical integrity, in accordance with the reporting procedures in Parts II(B)(3)(d) and I(E)(9)(e) of this permit.

18. Restriction on Injected Substances - The permittee shall be restricted to the injection of oil field brines or those fluids used in the enhancement of oil and gas production, and further, no fluids other than those from sources noted in the administrative record and approved by the Director shall be injected.

PART II

WELL SPECIFIC CONDITIONS FOR UIC PERMITS

A. CONSTRUCTION REQUIREMENTS

1. Siting - Notwithstanding any other provision of this permit, the injection well shall inject only into a formation which is separated from any USDW by a confining zone that is free of known open faults or fractures within the area of the review.

2. Casing and Cementing - Injection wells shall be cased and cemented to prevent the movement of fluids into or between USDWs. Specifics on the casing and cement to be used in the construction of the well shall be as contained in Attachments L and M of the administrative record corresponding to this permit action which are hereby incorporated by reference as if they appeared fully set forth herein.

3. Tubing and Packer Specifications - Injection shall only take place through tubing with a packer set in the long string casing at a depth no higher than immediately above the injection zone. Tubing and packer specifications shall be as represented in engineering drawings contained in Attachments L and M of the administrative record corresponding to this permit action which are hereby incorporated by reference as if they appeared fully set forth herein. Any proposed changes shall be submitted by the applicant for the approval of the Director before installation.

4. Wellhead Specifications - For every injection well, the operator shall provide a female fitting, with a cutoff valve, to the tubing at the wellhead, so that the amount of injection pressure being used may be measured by a representative of the USEPA by attaching a gauge having a male fitting.

B. OPERATING, MONITORING AND REPORTING REQUIREMENTS

1. Operating Requirements

(a) Injection Pressure Limitation

(i) Beginning on the effective date of this permit, the permittee is authorized to operate the injection well, subject to the limitations and monitoring requirements set forth herein. The injection pressure and injected fluid shall be limited and monitored as specified in Part III(A) of this permit.

(ii) Injection at a pressure which initiates fractures in the confining zone or causes the movement of injection or formation fluids into or between USDWs is prohibited.

(iii) Injection between the outermost casing protecting USDWs and the well bore is prohibited.

(iv) The annulus between the tubing and the long string casing shall be filled with a liquid designed to inhibit corrosion. The annulus liquid will be monitored in accordance with Parts II(B)(2)(d) and II(B)(3)(b) of this permit. Any specific annulus requirements are contained in Part III(A) of this permit.

2. Monitoring Requirements

(a) Samples and measurements, taken for the purpose of monitoring, shall be representative of the monitored activity. Grab samples shall be used to obtain a representative sample of the fluid to be analyzed. Part III(A) of this permit describes the sampling location and required parameters for injection fluid analysis. The permittee shall identify the types of tests and methods used to generate the monitoring data. The monitoring program shall conform to the one described in Part III(A) of this permit.

(b) Analytical Methods - Monitoring of the nature of injected fluids shall comply with applicable analytical methods cited and described in Table I of Title 40 CFR §136.3 or in Appendix III of Title 40 CFR Part 261 or by other methods that have been approved by the Director.

(c) Injection Fluid Analysis - The nature of the injection fluids shall be monitored as specified in Part III(A) of this permit. An initial analysis of the injection fluid is contained in Attachment H of the administrative record corresponding to this permit action which is hereby incorporated by reference as if it appeared fully set forth herein.

(d) Injection Pressure, Annulus Pressure, Annulus Liquid Loss, Flow Rate and Cumulative Volume - Injection pressure, annulus pressure, flow rate and cumulative volume shall be recorded at least weekly. Annulus liquid loss shall be recorded at least quarterly. This loss shall be reported as the volume of liquid added to the annulus to keep it filled in accordance with Part II(B)(1)(iv). All gauges used in monitoring shall be calibrated in accordance with Part I(E)(17)(e) of this permit.

3. Reporting Requirements - Copies of the monitoring results and all other reports shall be submitted to the Director at the following address:

U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604
Attn: UIC Section, Enforcement Team (5WD-TUB-9)

(a) Monthly Reports - Monitoring results obtained during each week shall be recorded on a form which has been signed and certified according to Title 40 CFR §144.32. Forms shall be submitted at the end of each month and shall be postmarked no later than the 10th day of the month following the sampling period. The first report shall be sent no later than the 10th day of the month following the month in which injection commences. This report shall include the weekly measurements of injection pressure, annulus pressure, flow rate and cumulative volume as required in Part III(A) of this permit.

(b) Quarterly Reports - Monitoring results obtained each quarter shall include the measurement of annulus liquid loss as required in Part III(A) of this permit. Reports shall be submitted at the end of each quarter and shall be postmarked no later than the 10th day of the first month of the following quarter.

(c) Annual Reports - Monitoring results obtained each year shall include the measurements of injected fluid characteristics as required in Part III(A) of this permit. Reports shall be submitted at the end of each year and shall be postmarked no later than the 10th day of the first month of the following year.

(d) Reports on Well Tests, Workovers, and Plugging and Abandonment - The applicant shall provide the Director with the following reports and test results within sixty (60) days of completion of the activity:

(i) Mechanical integrity tests;

(ii) Logging or other test data;

(iii) Well workovers (Using EPA Form 7520-12); and,

(iv) Plugging and abandonment.

PART III

SPECIAL CONDITIONS

These special conditions include, but are not limited to plans for maintaining correct operating procedures, monitoring conditions and reporting, as required by Title 40 CFR Parts 144 and 146. These plans are described in detail in the permittee's application for a permit, and the permittee is required to adhere to these plans as approved by the Director as follows:

A. OPERATING, MONITORING AND REPORTING REQUIREMENTS (ATTACHED)

B. PLUGGING AND ABANDONMENT PLAN (ATTACHED)

C. REMEDIAL ACTION PLAN (ATTACHED)

D. ADDITIONAL REQUIREMENTS (ATTACHED)

OPERATING, MONITORING AND REPORTING REQUIREMENTS

Characteristic	LIMITATION	MINIMUM MONITORING REQ. Freq.	Type	MINIMUM REPORTING REQUIREMENTS
*Injection Pressure	869 psig (MAXIMUM)	weekly		monthly
Annulus Pressure		weekly		monthly
Flow Rate		weekly		monthly
Cumulative Volume		weekly		monthly
Annulus Liquid Loss		weekly		quarterly
**Chemical Composition of Injected Fluid		annually	grab	annually

SAMPLING LOCATION:

*The limitation on wellhead pressure serves to prevent confining-formation fracturing. This limitation was calculated using the following formula: [(0.8 - (0.433 psi/ft)(specific gravity)) x depth] - 14.7 psi. The maximum wellhead pressure is dependent upon depth and specific gravity of the injected fluid. The Eau Claire Formation at 3252 feet was used as the depth and a specific gravity of 1.22 was used for the injected fluid.

**Chemical composition analysis shall include, but not be limited to, the following: Sodium, Calcium, Magnesium, Barium, Total Iron, Chloride, Sulfate, Carbonate, Bicarbonate, Sulfide, Total Dissolved Solids, pH, Resistivity (ohm-meters @ 75°F), and Specific Gravity.

Form Approved OMB No. 2040-0042

EPA

United States Environmental Protection Agency
Washington, DC 20460

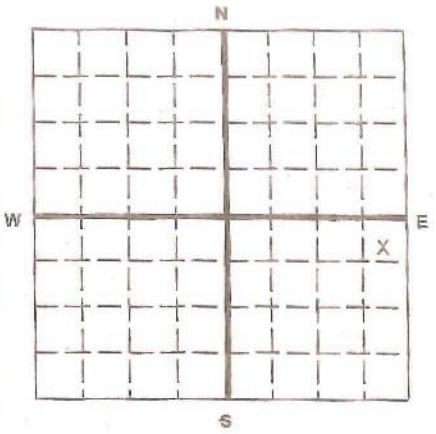
PLUGGING AND ABANDONMENT PLAN

MI-163-2D-0001
Page B-1 of 2

Name and Address of Facility
Marathon Pipe Line LLC - Woodhaven Station
24400 Allen Road
Woodhaven, MI 48183

Name and Address of Owner/Operator
Marathon Pipe Line LLC
539 South Main Street
Findlay, OH 45840

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
MI	Wayne	MI-163-2D-001

Surface Location Description
___ 1/4 of NE 1/4 of NE 1/4 of SE 1/4 of Section 22 Township 4S Range 10E

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 591 ft. frm (N/S) N Line of quarter section and 342 ft. from (E/W) E Line of quarter section.

TYPE OF AUTHORIZATION
- [ ] Individual Permit
- [ ] Area Permit
- [X] Rule

Number of Wells 1

Lease Name

WELL ACTIVITY
- [ ] CLASS I
- [X] CLASS II
  - [X] Brine Disposal
  - [ ] Enhanced Recovery
  - [ ] Hydrocarbon Storage
- [ ] CLASS III

Well Number

CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
16"	65	83	83	22"
10-3/4"	40.5	422	422	13-3/4"
5-1/2"	14	3745	3745	7-7/8"

METHOD OF EMPLACEMENT OF CEMENT PLUGS
- [X] The Balance Method
- [ ] The Dump Bailer Method
- [ ] The Two-Plug Method
- [ ] Other

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inche	5-1/2"	5-1/2"					
Depth to Bottom of Tubing or Drill Pipe (ft	3300	380					
Sacks of Cement To Be Used (each plug)	100	194					
Slurry Volume To Be Pumped (cu. ft.)	118	228.92					
Calculated Top of Plug (ft.)	2439	Surface					
Measured Top of Plug (if tagged ft.)	N/A	N/A					
Slurry Wt. (Lb./Gal.)	15.6	15.6					
Type Cement or Other Material (Class III)	Class A	Class A					

LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)

From	To	From	To
3334	3700		

Estimated Cost to Plug Wells
$36,492.00

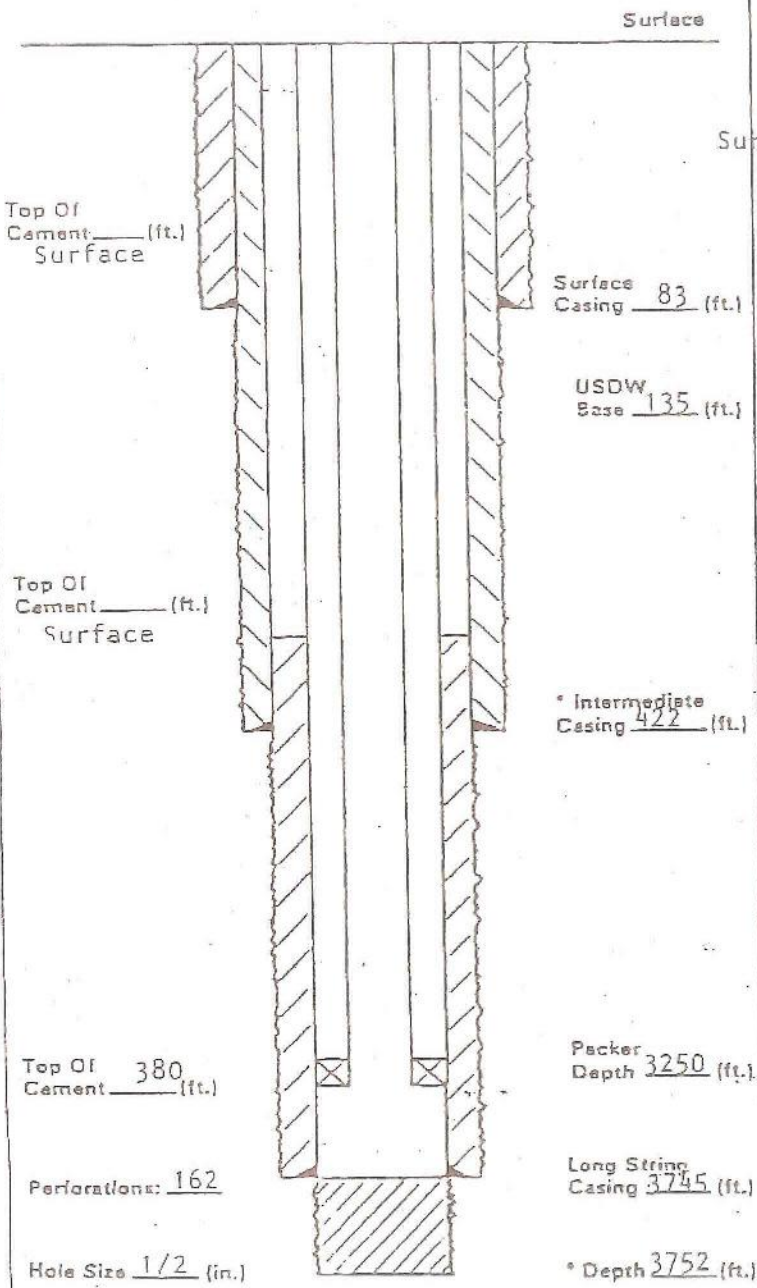
Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Mr. Donald P. Bozell, President Marathon Pipe Line, LLC	D P Bozell	10/20/05

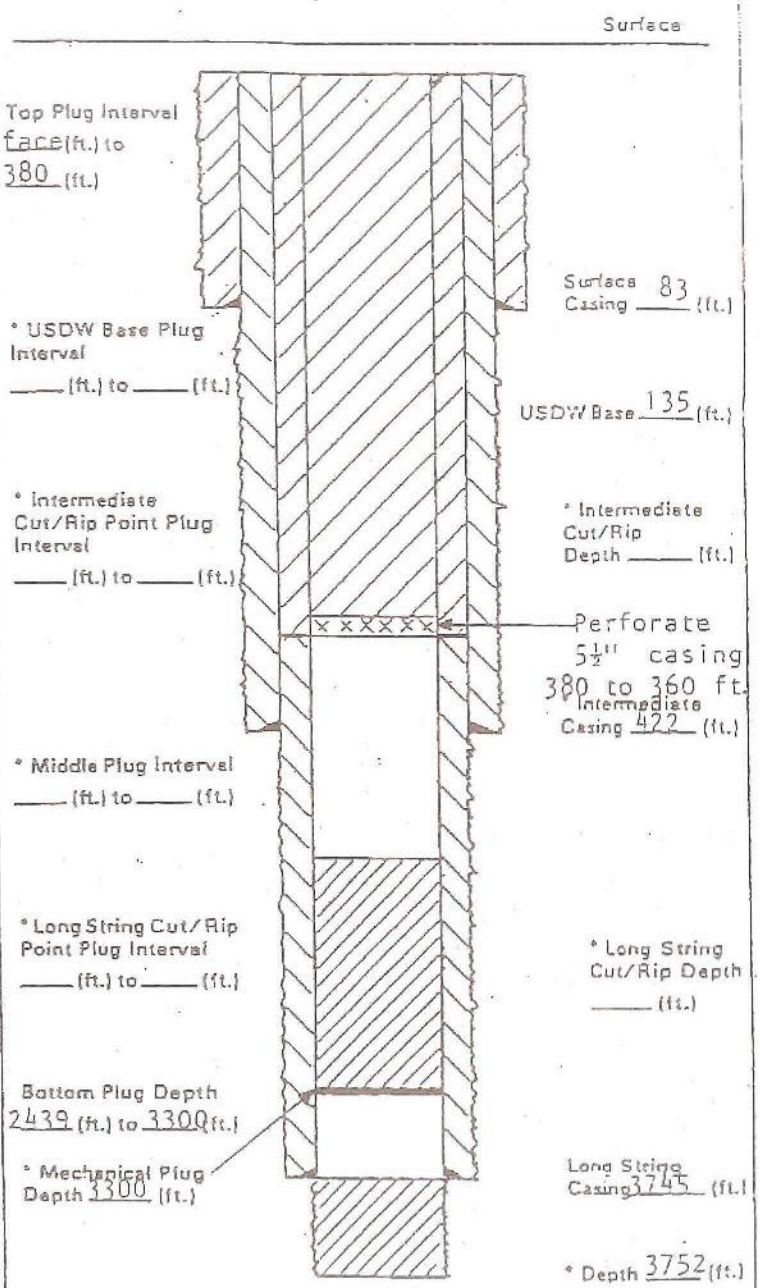
EPA Form 7520-14

ORIGINAL WELL CONSTRUCTION DURING OPERATION



** Add Any Additional Information
* May Not Apply

PLUGGING AND ABANDONMENT CONSTRUCTION



** Add Any Additional Information
* May Not Apply

LIST OF ALL OPEN AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED

city Open Hole/Perforations/Varied Casing	From	To	Formation Name
162 perforations	3334	3700	Eau Claire - Mt. Simon

REMEDIAL ACTION PLAN

No remedial action is required at this time.